REMARKS

Applicant appreciates the Examiner's attention to the above referenced application. Claims 1-27 were rejected. Claim 7 has been canceled. Claims 1, 8, 12, 18, and 24 have been amended. Claims 1-6 and 8-27 are now pending, of which claims 1, 12, 18 and 24 are independent.

35 USC § 103 Rejection of the Claims

Claims 1-6, 12-17 and 18-23 were rejected under 35 USC § 103(a) as being unpatentable over "Microsoft Portable Executable and Common Object File Format Specification" (PE/COFF), in view of Rahman et al. (US Patent No. 5,901,310, hereinafter "Rahman"), and in view of Nakajima et al. (US Patent No. 6,243,421, hereinafter "Nakajima"). Applicant respectfully traverses this rejection, which should be withdrawn for at least the reasons set forth herein.

Amended independent claim 1 is repeated below:

1. A method comprising:

merging at least two sections from an object file into one section of a firmware module, wherein the firmware module follows a portable executable (PE) format having subdivisions that include an MS-DOS header;

storing the firmware module in memory; and

flattening the firmware module by replacing existing content within at least one field within the MS-DOS header of the firmware module with fill data that is more compressible than the existing content.

Independent claims 12 and 18 contain substantially similar limitations and are rejected for substantially the same reasons.

The Office Action cites column 6 lines 22-25 of Nakajima as teaching the limitation "flattening the firmware module by replacing existing content within at least one field within the MS-DOS header of the firmware module with fill data that is more compressible than the existing content." (See Office Action dated September 26, 2008, page 3.) However, Nakajima

is concerned with decoding coded video data files (see Nakajima, Abstract) and not with compressing executable code. The cited portion of Nakajima describes that "the video data is … processed by filling a given area with 0s." (Nakajima, column 6, line 23.) Applicant respectfully submits that the video data being processed in Nakajima is not comparable to the executable code of a firmware module. Video data that must be processed to produce an image is non-functional. Compressing the video data may cause the resulting image to be less accurate, but the functionality to produce the image is not contained within the compressed video data. In contrast, the subject of flattening in independent claims 1, 12, and 18 is a firmware module that performs a specified function. Replacement of the contents of a field within the MS-DOS header of the firmware module may render the firmware module unable to perform that specified function. Simply combining the techniques suggested in Nakajima with the firmware module taught by the combination of Rahman and PE/COFF would render the resulting firmware module inoperable in performing its intended function.

The Office Action acknowledges this difference by stating that Nakajima teaches "flattening a data file" rather than "flattening [a] firmware module." (See Office Action dated September 26, 2008, page 3.) Furthermore, the Office Action does not state how "the given area" of the video data file to be filled with 0s is identified. Because Nakajima does not teach "flattening the firmware module by replacing existing content within at least one field within the MS-DOS header of the firmware module with fill data that is more compressible than the existing content," all limitations of independent claims 1, 12, and 18 are not taught by the cited combination. Consequently, independent claims 1, 12, and 18 and their respective dependent claims 2-11, 13-17, and 19-23 are allowable for at least this reason. Applicant respectfully requests that claims 1-23 be allowed to pass to issuance.

Claims 7-8, which depend from independent claim 1, were rejected under 35 USC § 103(a) as being unpatentable over the same combination of references used to reject claim 1 in combination with Nahapetian et al. (US Patent No. 6,654,386, hereinafter "Nahactian"). Claim 7 has been canceled and the limitation previously included in claim 7, "merging at least two sections from an object file into one section of a firmware module" is now incorporated into amended claim 1. Columns 6, lines 23-26 of Nahapetian were cited for teaching "merging data

sections of a file." Nahaptetian deals with airplane data files that are formatted as frames and subframes, and data in the data file are rearranged to increase the file compression ratio. However, just as with the Nakajima reference, the Nahapetian reference does not deal with object files, firmware modules, or executable instructions. Compressing the airplane data may cause the resulting information gained from interpreting the data to be less accurate, but the functionality to process the data is not contained within the compressed data. Techniques used to make data files smaller cannot be simply applied to an object file without affecting the operation of the object file. Simply combining the techniques suggested in Nahapetian to object files with the simple data compression suggested in Nakajima and the firmware module taught by the combination of Rahman and PE/COFF would render the resulting firmware module inoperable in performing its intended function. Consequently, independent claims 1, 12, and 18 and their respective dependent claims 2-11, 13-17, and 19-23 are allowable for at least this reason. Applicant respectfully requests that claims 1-23 be allowed to pass to issuance.

Claims 2, 13, and 19 include the limitation "loading fill data into at least fifty bytes of the MS-DOS header." The Office Action states that this limitation is obvious because "more fill data (i.e., 0s) would have resulted in more compression." This statement fails to recognize the functional nature of the firmware module being flattened. As stated above, replacing the contents of a field within the MS-DOS header of the firmware module may render the firmware module unable to perform its intended function; therefore, simply replacing additional bytes of the header field with fill data to achieve a smaller compressed file may destroy the functionality of the firmware module. Because the cited combination of references does not teach "loading fill data into at least fifty bytes of the MS-DOS header," claims 2, 13, and 19 are allowable for at least this reason.

Claim 9 depends from claim 1 and was rejected under 35 USC § 103(a) as being unpatentable over the same combination of references used to reject claim 1 in combination with Nahapetian et al. (US Patent No. 6,654,386) and Hind et al. (US Patent No. 6,635,088). Claim 9 is allowable over this combination for at least the same reasons as independent claim 1. Applicant respectfully requests that claim 9 be allowed to pass to issuance.

Claims 10-11 depend from claim 1 and were rejected under 35 USC § 103(a) as being unpatentable over the same combination of references used to reject claim 1 in combination with Hind et al. (US Patent No. 6,635,088). Claims 10-11 are allowable over this combination for at least the same reasons as independent claim 1. Applicant respectfully requests that claims 10-11 be allowed to pass to issuance.

In summary, claims 1-6 and 8-23 are allowable for at least the foregoing reasons, and Applicant respectfully requests that claims 1-6 and 8-23 be allowed to pass to issuance.

Claims 24-27 were rejected under 35 USC § 103(a) as being unpatentable over Rahman et al. (US Patent No. 5,901,310), in view of "Microsoft Portable Executable and Common Object File Format Specification" (PE/COFF), and in view of Nakajima et al. (US Patent No. 6,243,421). Applicant respectfully traverses this rejection, which should be withdrawn for at least the reasons set forth herein.

Amended independent claim 24 contains the same limitation as amended independent claims 1, 12, and 18, "merging at least two sections from an object file into one section of the firmware module; and flattening the firmware module by replacing existing content within at least one field within the MS-DOS header of the firmware module with fill data that is more compressible than the existing content." The same rationale based upon Nakajima that was used for the "flattening the firmware module by replacing existing content within at least one field within the MS-DOS header of the firmware module with fill data that is more compressible than the existing content" limitation of independent claims 1, 12, and 18 is used for independent claim 24. The addition of the "merging at least two sections from an object file into one section of the firmware module" limitation from former claim 7 is also distinguishable over the same combination of references used to reject independent claim 1 and dependent claim 7. Independent claim 24 is allowable for the same reasons as those outlined above with respect to independent claims 1, 12, and 18. Applicant respectfully requests that claims 24-27 be allowed to pass to issuance.

CONCLUSION

Applicant respectfully requests reconsideration in view of the remarks and amendments set forth above. If the Examiner has any questions, the Examiner is encouraged to contact the undersigned at (512) 732-1303. Please charge any shortage of fees in connection with the filing of this paper, including extension of time fees, to Deposit Account 50-0221 and please credit any excess fees to such account.

Respectfully submitted,

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